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CATERPILLAR/FINNEGAN, HENDERSON, L.L.P.
901 New York Avenue, NW
WASHINGTON, DC 20001-4413

EXAMINER
DAY, HERNG DER

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/743,755	BARMAN ET AL.
	Examiner	**Art Unit**	
	Herng-der Day	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 June 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-36</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-36</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 June 2007</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to Applicants' Amendment ("Amendment") to Office

Action dated January 12, 2007, filed June 20, 2007.

1-1.   Claims 1, 11, 17, 25, 28, and 33 have been amended. Claims 1-36 are pending.

1-2.   Claims 1-36 have been examined and rejected.

Drawings

2.   The replacement drawing sheet of FIG. 2 received on June 20, 2007 is acceptable. The

objection to the drawings has been withdrawn.

Specification

3.   The objections to the specification have been withdrawn.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Sebastian et al.,

U.S. Patent 5,822,206 issued October 13, 1998.

5-1.   Regarding claim 1, Sebastian et al. disclose a method of designing a machine component,

comprising:

establishing a plurality of requirements associated with the machine component (to

determine customer requirements, column 15, lines 14-25), the machine component including a

plurality of parts (a feature template may, in the design process, represent a sub-part (such as a

boss), ... or an assembly or subsystem (comprising a number of parts), column 15, lines 4-13);

automatically establishing a component layout in response to the plurality of

requirements (Automated CE system, step 48, FIG. 3; a detailed part drawing, ... are produced,

column 15, lines 56-62);

analyzing the component layout to determine whether the component layout meets a

predetermined performance threshold (to meet the performance requirements, column 8, lines

54-65); and

establishing a final component design when the component layout meets the

predetermined performance threshold (approved, column 15, lines 63-66).

5-2.   Regarding claim 2, Sebastian et al. further disclose including modifying the component

layout when the component layout does not meet the predetermined performance threshold (if

not approved in step 50 return to step 42, FIG. 3; enable the user to redesign the part, column 10,

lines 10-37).

5-3.   Regarding claim 3, Sebastian et al. further disclose including:

comparing the component layout with a set of information related to existing machine

components (supply the dimensions and parametric information based upon known factors, such

as ... known attributes about other related objects, column 22, lines 34-42); and

identifying an existing machine component having a similar layout to component layout
(parts which have been previously designed can be introduced to the design of a new part as an
external object, column 23, lines 49-55).

5-4.   Regarding claim 4, Sebastian et al. further disclose wherein the analysis of the
component layout analysis includes a finite element analysis (for example, FEM structural
analysis, column 18, lines 52-58).

5-5.   Regarding claim 5, Sebastian et al. further disclose wherein the predetermined
performance threshold includes a minimum component life expectancy (all aspects of the
product life cycle need to be taken into account, column 25, lines 22-29).

5-6.   Regarding claim 6, Sebastian et al. further disclose wherein machine component is a fluid
cylinder and the plurality of requirements includes at least one of a bore diameter, a rod
diameter, a stroke length, a head end pin diameter, a rod end pin diameter, a head end port type, a
head end port size, a head end port orientation, a rod end port type, a rod end port size, and a rod
end port orientation (a cylinder closed one end, column 12, lines 21-23).

5-7.   Regarding claim 7, Sebastian et al. further disclose including archiving the final
component design in a part database (to create feature templates and store them in a feature
template library, column 13, lines 57-58; captures and stores the designer's intent, column 26,
lines 58-64).

5-8.   Regarding claim 8, Sebastian et al. further disclose including reviewing a previously
stored final component design (parts which have been previously designed can be introduced to
the design of a new part as an external object, column 23, lines 49-55).

5-9. Regarding claim 9, Sebastian et al. further disclose including determining the costs associated with the final component design (it can be determined if it is feasible to produce the part within budget, column 10, lines 24-33).

5-10. Regarding claim 10, Sebastian et al. further disclose including identifying design changes to reduce the costs associated with final component design (enable the user to redesign the part, ... so that budgets are met, column 10, lines 33-37).

5-11. Regarding claim 11, Sebastian et al. disclose a system for designing a machine component, comprising:

an input device (input device 35, FIG. 2 and FIG. 6) adapted to receive a plurality of requirements associated with a machine component (to determine customer requirements, column 15, lines 14-25), the machine component including a plurality of parts (a feature template may, in the design process, represent a sub-part (such as a boss), ... or an assembly or subsystem (comprising a number of parts), column 15, lines 4-13); and

a processor (CPU 32, FIG. 2) adapted to establish a component layout in response to the plurality of requirements (a detailed part drawing, ... are produced, column 15, lines 56-62), to analyze the component layout to determine whether the component layout meets a predetermined performance threshold (to meet the performance requirements, column 8, lines 54-65), and to establish a final component design when the component layout meets the predetermined performance threshold (approved, column 15, lines 63-66).

5-12. Regarding claim 12, Sebastian et al. further disclose including a storage device adapted to store a set of information related to a plurality of existing machine components (feature template library, column 13, lines 57-58).

5-13.   Regarding claim 13, Sebastian et al. further disclose wherein the processor is adapted to

perform a finite element analysis on the component layout (for example, FEM structural

analysis, column 18, lines 52-58).

5-14.   Regarding claim 14, Sebastian et al. further disclose wherein the input device includes an

electronic design requirements form including input fields adapted to receive the plurality of

requirements (Templates as shown in FIG. 2A and FIG. 2B).

5-15.   Regarding claim 15, Sebastian et al. further disclose wherein machine component is a

fluid cylinder and the plurality of requirements includes at least one of a bore diameter, a rod

diameter, a stroke length, a head end pin diameter, a rod end pin diameter, a head end port type, a

head end port size, a head end port orientation, a rod end port type, a rod end port size, and a rod

end port orientation (a cylinder closed one end, column 12, lines 21-23).

5-16.   Regarding claim 16, Sebastian et al. further disclose wherein the processor is adapted to

determine the costs associated with the final component design (it can be determined if it is

feasible to produce the part within budget, column 10, lines 24-33) and to identify design

changes to reduce the costs associated with the final component design (enable the user to

redesign the part, ... so that budgets are met, column 10, lines 33-37).

5-17.   Regarding claim 17, Sebastian et al. disclose a method of designing a machine

component, comprising:

        establishing a plurality of requirements associated with the machine component (to

determine customer requirements, column 15, lines 14-25), the machine component including a

plurality of parts (a feature template may, in the design process, represent a sub-part (such as a

boss), ... or an assembly or subsystem (comprising a number of parts), column 15, lines 4-13);

comparing the plurality of requirements with a set of information related to existing

machine components in an automated manner (Automated CE system, step 48, FIG. 3); and

establishing a component layout design in response to said comparison (a detailed part

drawing, ... are produced, column 15, lines 56-62).

5-18. Regarding claim 18, Sebastian et al. further disclose including identifying an existing

machine component having a layout including at least one of the plurality of requirements (parts

which have been previously designed can be introduced to the design of a new part as an external

object, column 23, lines 49-55).

5-19. Regarding claim 19, Sebastian et al. further disclose including:

analyzing the component layout to determine whether the component layout meets a

predetermined performance threshold (to meet the performance requirements, column 8, lines

54-65); and

establishing a final component design when the component layout meets the

predetermined performance threshold (approved, column 15, lines 63-66).

5-20. Regarding claim 20, Sebastian et al. further disclose including modifying the component

layout when the component layout does not meet the predetermined performance threshold (if

not approved in step 50 return to step 42, FIG. 3; enable the user to redesign the part, column 10,

lines 10-37).

5-21. Regarding claim 21, Sebastian et al. further disclose including archiving the final

component design in a part database (to create feature templates and store them in a feature

template library, column 13, lines 57-58; captures and stores the designer's intent, column 26,

lines 58-64).

5-22. Regarding claim 22, Sebastian et al. further disclose wherein the machine component is a fluid cylinder and the plurality of requirements includes at least one of a bore diameter, a rod diameter, a stroke length, a head end pin diameter, a rod end pin diameter, a head end port type, a head end port size, a head end port orientation, a rod end port type, a rod end port size, and a rod end port orientation (a cylinder closed one end, column 12, lines 21-23).

5-23. Regarding claim 23, Sebastian et al. further disclose including determining the costs associated with the final component design (it can be determined if it is feasible to produce the part within budget, column 10, lines 24-33).

5-24. Regarding claim 24, Sebastian et al. further disclose including identifying design changes to reduce the costs associated with final component design (enable the user to redesign the part, ... so that budgets are met, column 10, lines 33-37).

5-25. Regarding claim 25, Sebastian et al. disclose a system for designing a machine component, comprising:

an input device (input device 35, FIG. 2 and FIG. 6) adapted to receive a plurality of requirements associated with a machine component (to determine customer requirements, column 15, lines 14-25), the machine component including a plurality of parts (a feature template may, in the design process, represent a sub-part (such as a boss), ... or an assembly or subsystem (comprising a number of parts), column 15, lines 4-13); and

a processor (CPU 32, FIG. 2) adapted to establish a component layout in response to the plurality of requirements (a detailed part drawing, ... are produced, column 15, lines 56-62), to compare the component layout with a set of information related to existing machine components (supply the dimensions and parametric information based upon known factors, such as ... known

attributes about other related objects, column 22, lines 34-42), and to identify an existing

machine component having a layout similar to the established component layout (parts which

have been previously designed can be introduced to the design of a new part as an external

object, column 23, lines 49-55).

5-26.   Regarding claim 26, Sebastian et al. further disclose wherein the processor is adapted to

analyze the component layout to determine whether the component layout meets a predetermined

performance threshold (to meet the performance requirements, column 8, lines 54-65) and to

establish a final component design when the component layout meets the predetermined

performance threshold (approved, column 15, lines 63-66).

5-27.   Regarding claim 27, Sebastian et al. further disclose including a storage device adapted to

store a set of information related to a plurality of existing machine components (feature template

library, column 13, lines 57-58).

5-28.   Regarding claim 28, Sebastian et al. disclose a method of designing a machine

component, comprising:

establishing a plurality of requirements associated with the machine component (to

determine customer requirements, column 15, lines 14-25), the machine component including a

plurality of parts (a feature template may, in the design process, represent a sub-part (such as a

boss), ... or an assembly or subsystem (comprising a number of parts), column 15, lines 4-13);

establishing a component layout in response to the plurality of requirements (a detailed

part drawing, ... are produced, column 15, lines 56-62);

determining the costs associated with the component layout (it can be determined if it is

feasible to produce the part within budget, column 10, lines 24-33); and

identifying changes in the component layout to reduce the costs associated with the

component layout (enable the user to redesign the part, ... so that budgets are met, column 10,

lines 33-37).

5-29. Regarding claim 29, Sebastian et al. further disclose including:

comparing the component layout with a set of information related to existing machine

components (supply the dimensions and parametric information based upon known factors, such

as ... known attributes about other related objects, column 22, lines 34-42); and

identifying an existing machine component having a layout similar to the established

component layout (parts which have been previously designed can be introduced to the design of

a new part as an external object, column 23, lines 49-55).

5-30. Regarding claim 30, Sebastian et al. further disclose including:

analyzing the component layout to determine whether the component layout meets a

predetermined performance threshold (to meet the performance requirements, column 8, lines

54-65); and

establishing a final component design when the component layout meets the

predetermined performance threshold (approved, column 15, lines 63-66).

5-31. Regarding claim 31, Sebastian et al. further disclose including modifying the component

layout when the component layout does not meet the predetermined performance threshold (if

not approved in step 50 return to step 42, FIG. 3; enable the user to redesign the part, column 10,

lines 10-37).

5-32. Regarding claim 32, Sebastian et al. further disclose including archiving the final

component design in a part database (to create feature templates and store them in a feature

template library, column 13, lines 57-58; captures and stores the designer's intent, column 26,

lines 58-64).

5-33. Regarding claim 33, Sebastian et al. disclose a system for designing a machine

component, comprising:

an input device (input device 35, FIG. 2 and FIG. 6) adapted to receive a plurality of

requirements associated with a machine component (to determine customer requirements,

column 15, lines 14-25), the machine component including a plurality of parts (a feature template

may, in the design process, represent a sub-part (such as a boss), ... or an assembly or subsystem

(comprising a number of parts), column 15, lines 4-13); and

a processor (CPU 32, FIG. 2) adapted to establish a component layout in response to the

plurality of requirements (a detailed part drawing, ... are produced, column 15, lines 56-62), to

determine the costs associated with the component layout (it can be determined if it is feasible to

produce the part within budget, column 10, lines 24-33), and to identify changes in the

component layout to reduce the costs associated with the component layout (enable the user to

redesign the part, ... so that budgets are met, column 10, lines 33-37).

5-34. Regarding claim 34, Sebastian et al. further disclose including a storage device adapted to

store a set of information related to a plurality of existing machine components (feature template

library, column 13, lines 57-58).

5-35. Regarding claim 35, Sebastian et al. further disclose wherein the processor is adapted to

compare the component layout with the set of information related to existing machine

components (supply the dimensions and parametric information based upon known factors, such

as ... known attributes about other related objects, column 22, lines 34-42) and to identify an

existing machine component having a layout similar to the component layout (parts which have

been previously designed can be introduced to the design of a new part as an external object,

column 23, lines 49-55).

5-36.   Regarding claim 36, Sebastian et al. further disclose wherein the processor is adapted to

analyze the component layout to determine whether the component layout meets a predetermined

performance threshold (to meet the performance requirements, column 8, lines 54-65) and to

establish a final component design when the component layout meets the predetermined

performance threshold (approved, column 15, lines 63-66).

Applicants' Arguments

6.   Applicants argue the following:

(1) "Sebastian discloses a single part. Sebastian fails to disclose a machine component

including a plurality of parts as required by independent claims 1, 11, 15, 17, 25, 28, and 33.

Accordingly, Applicant respectfully requests withdrawal of the Section 102(b) rejection of

independent claims 1, 11, 15, 17, 25, 28, and 33, and their dependent claims, 2-10, 12-14, 16, 18-

24, 26, 27, 29-32, and 34-36." (Page 14, paragraph 1, Amendment).

Response to Arguments

7.   Applicants' arguments have been fully considered but they are not persuasive. Sebastian

et al. disclose a computer-based engineering design method to design a part. Specifically,

Sebastian et al. disclose at column 12, lines 58-61, "Part-feature template incorporate sub-part

feature templates that represent the sub-parts that are used to make the part represented by the

part-feature template" and at column 15, lines 4-13, "The present invention supports design at

various design levels. For example, a feature template may, in the design process, represent a

sub-part (such as a boss), or a part (such as a gear), or an assembly or subsystem (comprising a

number of parts), or a product or system. For convenience, the term "part" is used, but this term

is not limited to part, and includes sub-part, assembly, subsystem and product. Accordingly, a

feature template may represent any object in the design process, for example, from a screw to a

completed product". In other words, the term "part" used by Sebastian et al. is not limited to part

only but includes sub-part, assembly, subsystem as well as product and part-feature template

incorporates sub-part feature templates that represent the sub-parts that are used to make the part

represented by the part-feature template. Accordingly, "a feature template may represent an

assembly or subsystem (comprising a number of parts)" anticipates the claimed limitation "the

machine component including a plurality of parts".

Conclusion

8.   Applicants' amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (571) 272-3777. The Examiner can normally be reached on 9:00 - 17:30.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kamini S. Shah can be reached on (571) 272-2279. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Herng-der Day
July 2, 2007   7/D.

KAMINI SHAH
SUPERVISORY PATENT EXAMINER